Maryland Department of the Environment

Overview of MDE Turbidity Requirements

2024 National Stormwater Roundtable

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Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Horacio Tablada, Secretary
Suzanne E. Dorsey, Deputy Secretary

GENERAL PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY
General NPDES Permit Number MDRC0000
State Discharge Permit Number 20CP0000A
EFFECTIVE DATE: April 1, 2023 EXPIRATION DATE: March 31, 2028
MODIFIED: May 2, 2023

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20-CP Permit Effective 4/1/2023

Dewatering (Part III.A.4)

4. Construction Dewatering Requirements

Comply with the following requirements to minimize the discharge of pollutants from dewatering operations, in accordance with Part I.C.2.

a. Route dewatering water through a sediment control designed to minimize discharges of pollutants and prevent discharges with visual turbidity (as defined in Appendix A). Appropriate controls are identified in the ESC Handbook Section F and may require additional use of chemical additives as provided in this permit that are designed to remove sediment.

b. Do not discharge visible floating solids or foam;

c. Use an oil-water separator or suitable filtration device (such as a cartridge filter) that is designed to remove oil, grease, or other products if dewatering water is found to contain these materials;

d. To the extent feasible, use well-vegetated, upland areas of the site to infiltrate dewatering water before discharge. You are prohibited from using Waters of this State as part of the treatment area;

e. To prevent dewatering-related erosion and related sediment discharges;
   i. Use stable, erosion-resistant surfaces (e.g.,well-vegetated grassy areas, clean filter stone, geotextile underlayment) to discharge from dewatering controls;
   ii. Do not place dewatering controls, such as pumped water filter bags, on steep slopes; and
   iii. At all points where dewatering water is discharged, comply with the velocity dissipation requirements of Part III.A.2.l;

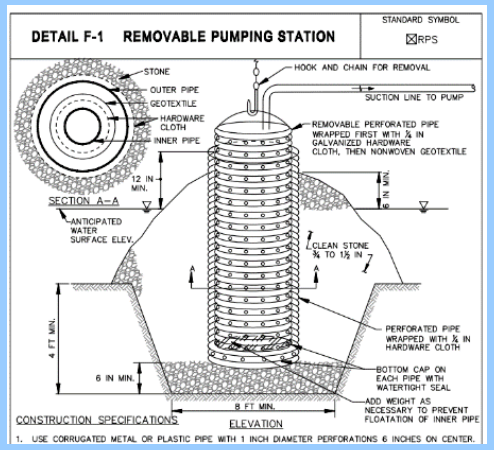
f. With backwash water, either haul it away for disposal or return it to the beginning of the treatment process;

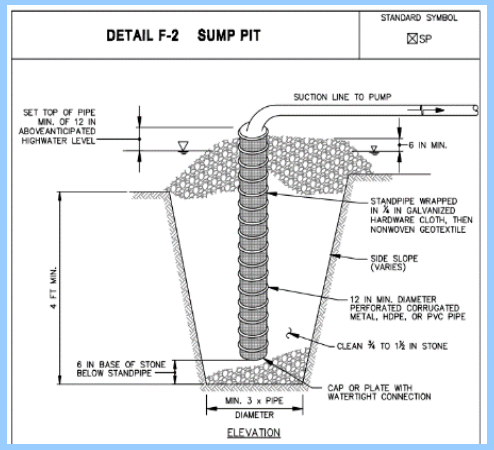
g. For any approved manufactured treatment systems, replace and clean the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications; and

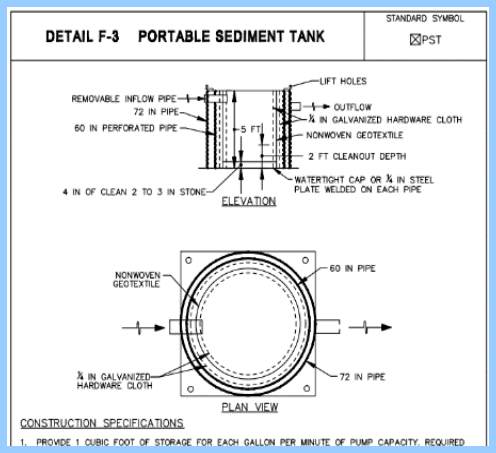
h. Comply with dewatering-specific inspection requirements in Part C.

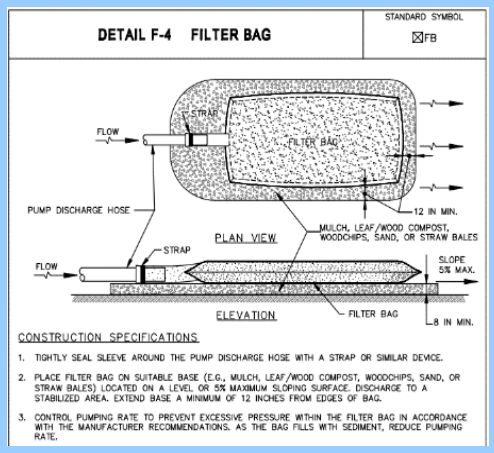
- Requires the selection of certain E&S controls and practices.
- Requires visual monitoring.
- Must consider potential pollutants.
- May necessitate additional specific inspection requirements related to turbidity.

Dewatering Practices (2011 ESC Handbook)









Dewatering is…

"The act of draining accumulated stormwater and/or ground water from building foundations, vaults, well point system, and trenches."
– 20-CP Appendix A

Turbidity Benchmark Monitoring

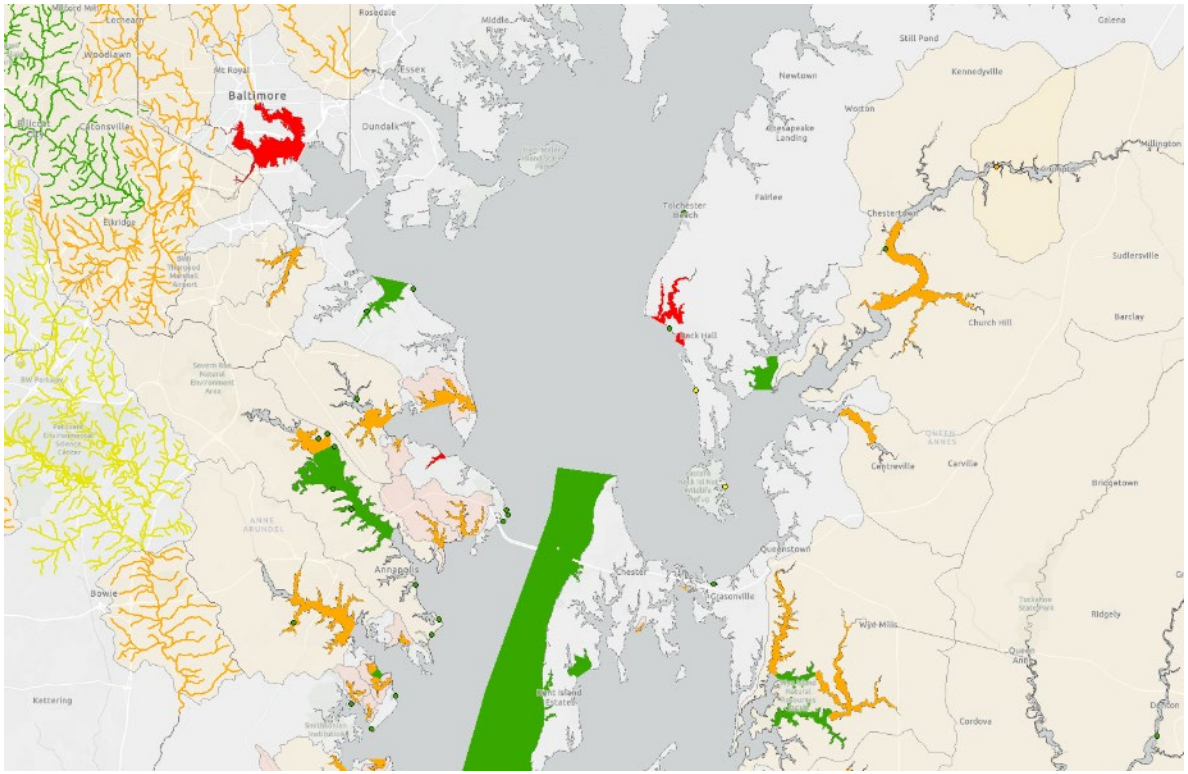
- Page 26, Part III.B.4
- Required for any site **discharging dewatering water to a Tier II watershed or waters impaired for sediment.**
- In other words, the usage of any of the approved dewatering practices from the 2011 ESC Handbook. (E.g., removable pumping station, sump pit, portable sediment tank, filter bag.)

Impaired Water Monitoring

Turbidity Benchmark Monitoring Applies to receiving waters impaired for sediment or Tier II

- 2-Meets Water Quality Criterion
- 3-Insufficient Information
- 4a-Impaired, TMDL Complete
- 5-Impaired, TMDL Needed

Orange (4a) or **Red (5)** = Impaired for sediment



(Similar process for Tier II Identification)

Turbidity Benchmark Monitoring

- Turbidity sampling and dewatering inspections at **each dewatering discharge point once a day for every day dewatering discharge occurs.**
- The maintenance of a daily log of turbidity measurements.
- The submission of a turbidity monitoring report (Appendix D) via e-Permits **following the end of each monitoring quarter.**

Turbidity Sampling and the 150 Benchmark

- **Test Methods –** Samples must be taken and measured with a turbidity meter that reports in NTUs and conforms to Part 136 of the Federal Regulations (e.g., methods 180.1 and 2130); the meters must be calibrated prior to each day's use.
- **Sampling frequency –** Once per day.
- **Sampling location –** At each **initial dewatering discharge point – before the usage of other ESCs/BMPs.**
- **Representative samples –** Samples should be taken during "in the middle of" dewatering (not just as dewatering begins/ends).
- Sampling results must be compared to the **daily maximum of 150 NTU benchmark.**

Dewatering Inspections

- Dewatering inspections must be conducted **during the discharge of dewatering water, once per day on which the discharge occurs** (Parts III.C.3.b and III.C.7.d).
  - Conducted at the discharge location
  - Look for plumes, sheens, odors, colors, etc. at the point of discharge to receiving waters.
    - **If any triggering events are observed, a corrective action is required (Part III.D.5).**
- Dewatering inspection reports require:
  - Start and end times (approx.) of the discharge.
  - Whether the discharge was continuous.
  - An estimate of the rate in gallons per day.
  - Whether there was any indications of pollutant discharge observed at the discharge point.
  - To be submitted alongside regular inspection report.

The Daily Maximum Threshold

- The benchmark threshold for turbidity is a daily maximum of **150 NTUs.**
  - **An exceedance of 150 NTUs is not a violation on its own!**
  - **Exceeding this threshold requires a corrective action (Part III.D.5).**
  - **If no correction action is taken, this is a permit violation.**

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Turbidity Violations

- Turbidity may not exceed levels detrimental to aquatic life.
- Turbidity in the surface water resulting from any discharge may not exceed 150 units at any time or 50 units as a monthly average.
- **Any in-stream color change is a violation.**

Polymer Use

The Department provides requirements for the use of polymers on our website, and these are incorporated into permit.

https://mde.maryland.gov/programs/Permits/WaterManagementPermits/Pages/MDFlocs.aspx

MDE Flocculants

Chemical Additive Forms and Guidance

- Standards for Use of Treatment Chemicals for Sediment Control
- Request for Cationic Chemical Additives Form
- Procedures for Review of Chemical Additives for Sediment Control
- Video Guidance: Example of Polyacrylamide (PAM) Use with Wattles - *external link, courtesy of NCSU Crop and Soil Sciences Department*

Authorization for use of chemical additives as part of an NPDES permit or NPDES general permit registration is required prior to use, including the use of additives on the approved

Manufacturer/Distributor	Product-Name	Max-Concentration (ppm or mg/l)	Type-of-Poly
Ashland Hercules Water Tech (Solenis)	Ashland ChargePac 55	10	Cationic
Aquamark, Inc	AQ 109	180 mg/L	Anionic
Aquamark, Inc	AQ 224	1	Cationic
Biostar	CH Chitosan Acetate	220.8	Cationic
Biostar	CH Chitosan Lactate	263.9	Cationic
HaloSource / now Dober Chem 4-4-16	3% LiquiFloc	9.4	Cationic
HaloSource / now Dober Chem 4-4-16	Haloklear BHR - P50	78.4	Cationic
HaloSource / now Dober Chem 4-4-16	HaloKlear 4900 DBF	1.4	Cationic
HaloSource / now Dober Chem 4-4-16	HaloKlear GelFloc	2.56	Cationic
Applied Polymer Systems (APS)	APS 702b Floc Log	42	Anionic
Applied Polymer Systems (APS)	APS 703d # 3 / 806 Floc Log	51.8	Anionic
Applied Polymer Systems (APS)	APS 702c Floc Log	42	Anionic
Applied Polymer Systems (APS)	APS 703d Floc Log	38.3	Anionic
Applied Polymer Systems (APS)	APS 706b Floc Log	42	Anionic

Important Notes / FAQ

- One operator may fulfill the turbidity monitoring requirements of multiple other operators at the same site.
  - Avoids duplicate work and streamlines reporting
  - **Does not** exempt those other operators from their responsibility to remain compliant with turbidity monitoring requirements
  - **Does** exempt those other operators from having to submit quarterly TBMs, if the "representative operator" is fulfilling all requirements
  - These coordinating arrangements must be described in the SWPPP
- If dewatering to a basin, and the volume being pumped to the basin doesn't result in a discharge, then turbidity benchmark monitoring isn't required.
- Turbidity sampling should be performed at each initial dewatering discharge point, prior to the usage of other BMPs/ESCs.

Turbidity Reporting Form

SECTION IV. MONITORING QUARTER

Monitoring Quarter

Identify monitoring quarter (select only one):

☐ Quarter 1 (January 1 – March 31) ☐ Quarter 3 (July 1 – September 30)

☐ Quarter 2 (April 1 – June 30) ☐ Quarter 4 (October 1 – December 31)

SECTION V. TURBIDITY MONITORING DATA

Turbidity Monitoring

Discharge Point Description/ Name:

Was dewatering water discharged during the monitoring quarter? ☐ Yes (Enter the data below) ☐ No (Skip to Section VI)

Specific Week within Monitoring Quarter	Daily Maximum (NTU)[1]	Benchmark Threshold (NTU)	Notes	Daily Maximum exceeds Benchmark?[2]
Week 1		150		☐ Yes ☐ No
Week 2		150		☐ Yes ☐ No
Week 3		150		☐ Yes ☐ No
Week 4		150		☐ Yes ☐ No
Week 5		150		☐ Yes ☐ No
Week 6		150		☐ Yes ☐ No
Week 7		150		☐ Yes ☐ No
Week 8		150		☐ Yes ☐ No
Week 9		150		☐ Yes ☐ No
Week 10		150		☐ Yes ☐ No
Week 11		150		☐ Yes ☐ No
Week 12		150		☐ Yes ☐ No
Week 13		150		☐ Yes ☐ No
Week 14		150		☐ Yes ☐ No

[1] Report to the nearest whole number. Enter "N/A" if no dewatering discharge occurred during any particular week.

[2] If "Yes," the operator must conduct follow-up corrective action pursuant to Part III.D.2. and document any corrective action taken in the corrective action log in accordance with Part III.D.4.

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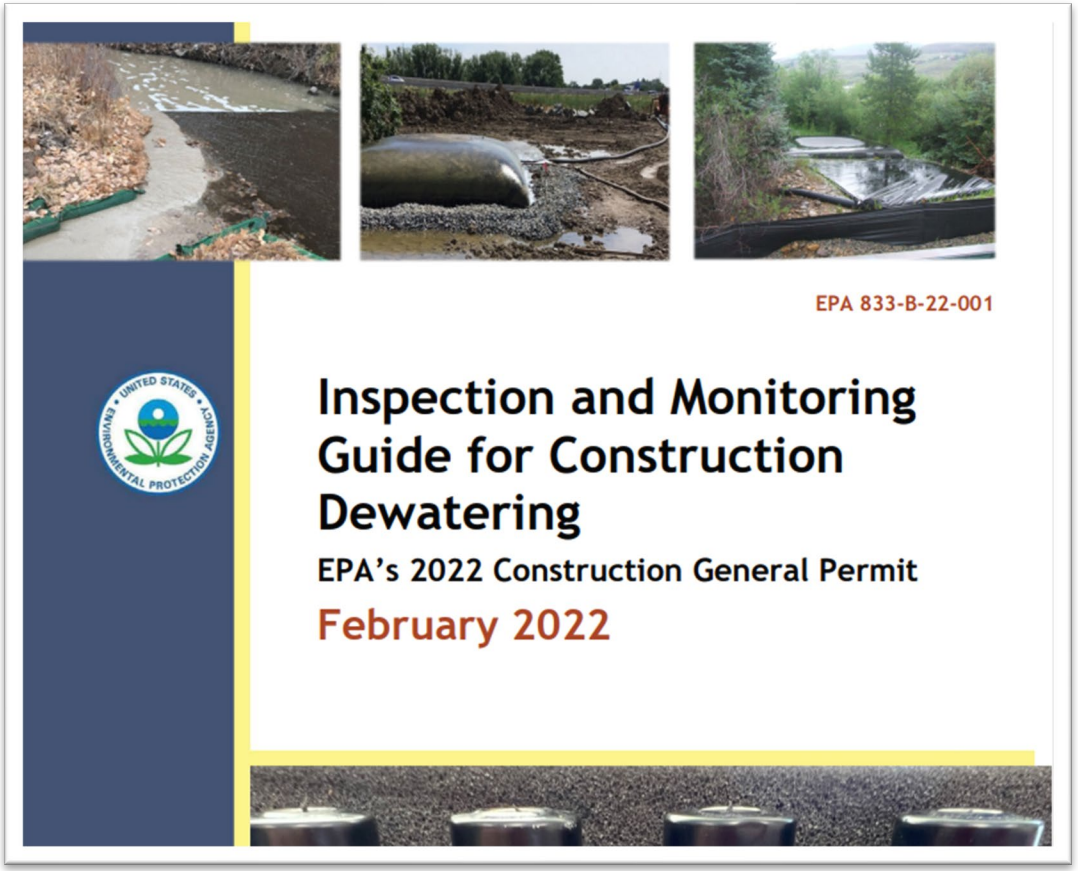
EPA Guidance



(https://www.epa.gov/system/files/documents/2022-01/cgp-inspection-and-monitoring-guide-for-dewatering.pdf)

Thank you!!!

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